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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of:	:	Before the Examiner:
Edward A. Hubbard	:	Nilesh R Shah
Serial No.: 09/602,803	:	Group Art Unit: 2127
Filed: March 30, 2000	:	
Title: DATA SHARING AND FILE	:	United Devices, Inc.
DISTRIBUTION METHOD AND	:	12675 Research, Bldg A
ASSOCIATED DISTRIBUTED	:	Austin, Texas 78759
PROCESSING SYSTEM	:	

Mail Stop Appeal Brief-Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

SUPPLEMENTAL APPEAL BRIEF

I.   REAL PARTY-IN-INTEREST

The real party in interest is United Devices, Inc. who is the assignee of the entire right and interest in the present Application.

CERTIFICATION UNDER 37 C.F.R. § 1.8

II.   RELATED APPEALS AND INTERFERENCES

There are no appeals or interferences known to Appellants, the Appellants' legal representative, or assignee which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

III.   STATUS OF CLAIMS

Claims 23-30 are pending in the Application. Claims 23-30 stand rejected.

Claims 26 and 29 were amended for informalities.   Claims 23-30 are appealed.

IV.   STATUS OF AMENDMENTS

After Final amendments to Claims 26 and 29 were filed August 10, 2004 to put the claims in form for allowance but the Applicant has not received an Advisory action from the Examiner indicating the status of these amendments. The status of the after Final amendment is unknown.

V.   SUMMARY OF THE INVENTION

In one embodiment, a method of operating a distributed processing system (FIG. 7A, element 100) having a network (FIG. 7A, element 102) coupling a multiplicity of Host distributed devices (FIG. 7A, elements 108, 110, 112) for processing workloads for the distributed processing system, a plurality of Client systems requesting processing of the workloads (FIG. 1B, element 130), and a Server system for selectively distributing the workloads from the plurality of Client systems for processing by the distributed processing system comprising five steps. Specification, page 5, line 13 through page 7, line 10.

In step 1, the Server system (FIG. 14B, element 104) receives a request from one of the plurality of Client systems (FIG. 14B, elements 108A-108H) to use the

distributed processing system to process a first workload. Specification, page 64, lines 13-16. FIG. 14A and FIG. 14B.

In step 2, the first workload is sent to a first Host distributed device selected from the multiplicity of Host distributed devices. Specification, page 68, lines 1-8; page 6, lines 6-13; page 6, lines 6-13.

In step 3, an index of one or more data addresses defining a location of first data required to process the first workload is sent to the first Host distributed device. Specification, page 67, lines 16-22.

In step 4, the first data from a first data address selected from the one or more data addresses in the index is accessed. Specification, page 66, lines 17-23.

In step 5, the index is updated to include a storage address of storage coupled to the first Host distributed device as a location of the first data. Specification, page 64, lines 13-23.

In another embodiment, a distributed data processing system comprises:

1) a multiplicity of Host distributed devices coupled to a network such that the Host distributed devices process workloads for the distributed processing system. FIG. 14B system 1450, elements 108A-108H.

2) a Server system (FIG. 14B, element 104) coupled to the network for distributing workloads to selected of the multiplicity of Host distributed devices. FIG. 8, element 102 and elements 108-112. Specification, page 5, lines 13-16.

3) a database coupled to the Server system for storing capability vectors having capability values defining an ability of each of the multiplicity of Host processing devices has for processing workloads for the distributed processing system. FIG. 6A, element 620. Specification, page 37, lines 1-23.

4) an index stored in the database having one or more storage addresses defining storage locations for accessing data required to process workloads for the distributed processing system. Specification, page 48, lines 8-15.

5) circuitry for accessing first data required for a first workload by a first Host distributed device processing the first workload using an address of the first data stored in the index, wherein the first Host distributed device stores the first data at a first data address when processing the first workload. Specification, page 48, lines 8-15.

6) circuitry in the first Host distributed device for automatically updating the index in the database to include the first data address as a location for the first data. Specification, page 66, lines 12-23.

In another embodiment, a computer program product operates within a Server system managing a distributed processing system, wherein the Server system is coupled to a network, the network configured to enable the Server system to be coupled to a multiplicity of Host distributed devices for processing workloads for the distributed processing system, the program product comprising a program of instructions for performing the program steps of:

1) configuring a database in storage coupled to the Server system for storing and accessing capability vectors having capability values defining an ability each of the multiplicity of Host distributed devices has for processing workloads for the distributed processing system. FIG. 6A, Specification, page 36, line 19 to page 37, line 4.

2) configuring an index in the database for storing addresses defining locations of data required to process each workload the Server system submits to the distributed processing system for processing. Specification, page 36, line 18 through page 37, line 17.

3) sending storage addresses of first data required to process a first workload from the index to a first Host distributed device when the first Host distributed device is selected to process the first workload. Specification, page 66, lines 14-23.

4) updating the index with a storage address of the first data within storage coupled to the first Host distributed device when the first Host distributed device is selected to process the first workload. Specification, page 66, lines 14-23.

In another embodiment, a software agent operates within each of a multiplicity of Host distributed devices coupled to a network, the network configured to enable a Server system to selectively couple the multiplicity of Host distributed devices to perform workloads for a distributed processing system, the software agent comprising a program of instructions for performing the program steps of (Specification, page 5, line 18 through page 6, line 4):

1) receiving in a first Host distributed device selected from the multiplicity of Host distributed devices a first workload, an application program to process the first workload, and an index of storage addresses defining one or more locations for accessing first data required to process the first workload. Specification, page 67, lines 16-22.

2) accessing the first data from one of the storage addresses in the index. Specification, page 66, lines 17-23.

3) storing the first data at a first storage address in storage coupled to the first Host distributed device when the first Host distributed device is selected to process the first workload. Specification, page 6, lines 15-23,

4) updating the index by adding the first storage address as an address for accessing the first data. Specification, page 64, lines 13-23.

VI.   ISSUES

1.   Claims 23-30 stand rejected under *35 U.S.C. § 103(a)* as being unpatentable over *London* et al. (hereinafter *London*), Popcorn, A Paradigm for Global-Computing, June 1998 in view of U.S. Patent No. 5,790,789 to *Suarez* (hereafter " *Suarez*").

VII.   ARGUMENT

Claims 23-30 are not properly rejected under *35 U.S.C. § 103(a)* as being unpatentable over *London* in view of *Suarez*.

Claim 23 recites a method of operating a distributed processing system having a network coupling a multiplicity of Host distributed devices for processing workloads for the distributed processing system, a plurality of Client systems requesting processing of the workloads, and a Server system for selectively distributing the workloads from the plurality of Client systems for processing by the distributed processing system comprising five steps. In step 1, the Server system receives a request from one of the plurality of Client systems to use the distributed processing system to process a first workload. In step 2, the first workload is sent to a first Host distributed device selected from the multiplicity of Host distributed devices. In step 3, an index of one or more data addresses defining a location of first data required to process the first workload is sent to the first Host distributed device. In step 4, the first data from a first data address selected from the one or more data addresses in the index is accessed; and in step 5, the index is updated to include a storage address of storage coupled to the first Host distributed device as a location of the first data.

The Examiner states that *London* teaches "a method of operating a distributed processing system having a network coupling a multiplicity of Host distributed processing system, a plurality of Client systems and a Server system...." The Examiner then states that *London* fails to specifically teach "use of identifying at least

one workload capability for a plurality of the distributed devices." The Applicant respectfully asserts that the Examiner is stating that *London* teaches elements of canceled Claim 1 of the present invention without addressing the teaching of *London* regarding Claim 23 of the present invention. Therefore, the Applicant respectfully asserts that the Examiner has failed to make a *prima facie* case of obviousness as there is no assertion that *London* teaches or suggests the steps of Claim 23.

The Examiner then states that *Suarez* teaches step 1 of Claim 23 citing *Suarez*, column 6, lines 12-29 and column 30, lines 4-15. Column 6, lines 12-29 of *Suarez* is in the Summary of Invention relative to services, and tasks cooperatively performed by the services. Column 30, lines 4-15 of *Suarez* describes providing developer tools that invoke certain capabilities of *Suarez*'s system which are listed. Nowhere in these recitations does *Suarez* teach or suggest receiving a request from the server to use the distributed processing system of Claim 23 to process a first workload.

The Examiner states that *Suarez* teaches step 3 of Claim 23 citing column 26, lines 40-67 and column 27, lines 33-36. Column 26, lines 40-67 of *Suarez* describes how services communicate and does not teach or suggest indexes of any form. Column 27, lines 33-36 discusses the queue of a destination agent and does not mention the index of step 3 in any form. Step 3 of Claim 23 specifically recites sending an <u>index of one or more data addresses</u> defining a locating of first data required to process the first workload. Applicant did not find "index" anywhere within the disclosure of *Suarez*. Since the Applicant did not find indexing anywhere in *Suarez* and Examiner <u>did not specifically point out</u> what he believes is the index of step 3 of Claim 23, the Applicant respectfully asserts that the Examiner has failed to make a *prima facie* of obviousness for step 3 of Claim 23 over the cited prior art.

The Examiner states that *Suarez* teaches step 4 of Claim 23 citing column 24, lines 17-23, column 7, lines 18-29, and column 11, lines 14-21. Column 24, lines 17-23 of *Suarez* discusses Rule structure for the Agents of *Suarez*. Column 7, lines 18-29 of *Suarez* describes features of *Suarez* allowing operation with Legacy applications

and the number of services provided and where they reside. Column 11, lines 14-21 of *Suarez* describes utilizing a Bus Agent and service architecture wherein services communicate only through their Bus Agent. Step 4 of Claim 23 specifically recites accessing the first data of step 3 from a first address from the index of step 3. Applicant did not find "index" anywhere within the disclosure of *Suarez*. Since the Applicant did not find indexing anywhere in *Suarez* and Examiner did not specifically point out what he believes is the index of step 4 of Claim 23, the Applicant respectfully asserts that the Examiner has failed to make a *prima facie* of obviousness for step 4 of Claim 23 over the cited prior art.

The Examiner states that *Suarez* teaches step 5 of Claim 23 citing column 26, lines 40-67 and column 27, lines 33-36. Step 5 specifically recites updating the index of step 3. Column 26, lines 40-67 of *Suarez* describes how services communicate and does not teach or suggest indexes of any form. Column 27, lines 33-36 discusses the queue of a destination agent and does not mention the index of step 3 in any form. Applicant did not find "index" anywhere within the disclosure of *Suarez*. Since the Applicant did not find indexing anywhere in *Suarez* and Examiner did not specifically point out what he believes is the index updating of step 5 of Claim 23, the Applicant respectfully asserts that the Examiner has failed to make a *prima facie* of obviousness for step 5 of Claim 23 over the cited prior art.

Finally, the Examiner states that "it would have been obvious to combine the teachings of *London* and *Suarez* because the *Suarez* method of dynamic resource allocation would improve *London's* system by making it more efficient because each distributed device would know the workload of each device." The Applicant has shown that the Examiner failed to address the steps of Claim 1 relative to the teachings of *London*. *London* describes a market concept that allows computer owners with unused computing capacity to sell computing time to buyers. *London* does not describe the distributed processing system of Claim 23. One of ordinary skill in the art would not arrive at the invention of Claim 23 by improving *London's*

system using *Suarez*'s method of resource allocation. Neither *London* nor *Suarez*, singly or in combination teach or suggest all of the steps of Claim 23.

Therefore, the Applicant respectfully asserts that the rejection of Claim 23 under *35 U.S.C. § 103(a)* as being unpatentable over *London* in view of *Suarez* is traversed by the above arguments.

Claim 24 is dependent from Claim 23 and contains all the limitations of Claim 23. Claim 24 adds the limitation that the multiplicity of Host distributed devices are coupled to the network in response to an incentive supplied by the Server system. The Examiner states that *Suarez* teaches the limitation of Claim 24. The Applicant did not find "incentive" in any form in *Suarez* and in particular did not find it in column 26, lines 1-32 nor column 25, lines 40-66. Since the Applicant did not find incentive anywhere in *Suarez* and Examiner did not specifically point out what he believes is the incentive of Claim 24, the Applicant respectfully asserts that the Examiner has failed to make a *prima facie* of obviousness for Claim 24 over the cited prior art.

Therefore, the Applicant respectfully asserts that the rejection of Claim 24 under *35 U.S.C. § 103(a)* as being unpatentable over *London* in view of *Suarez* is traversed by the above arguments and for the same reasons as Claim 23.

Claim 25 is dependent from Claim 24 and contains all the limitations of Claim 24. Claim 25 adds the limitation that the incentive defines an advantage for the multiplicity of Host distributed devices to couple to the network. The Examiner states that *Suarez* teaches the limitation of Claim 25 and cites column 26, lines 1-32 and column 25, lines 40-66. Column 6, lines 1-32 of *Suarez* details operation of the Agents of *Suarez* and does not mention "incentives" in any form. Column 25, lines 40-66 of *Suarez* describes FIG. 10 which depicts and example use of Agents in controlling services, specifically in the area of time scheduling. Since the Applicant did not find "incentive" anywhere in *Suarez* and Examiner did not specifically point out what he believes is the incentive of Claim 25, the Applicant respectfully asserts

that the Examiner has failed to make a *prima facie* of obviousness for Claim 24 over the cited prior art.

Therefore, the Applicant respectfully asserts that the rejection of Claim 25 under *35 U.S.C. § 103(a)* as being unpatentable over *London* in view of *Suarez* is traversed by the above arguments and for the same reasons as Claims 23 and 24.

Claim 26 is dependent from Claim 23 and contains all the limitations of Claim 23. Claim 26 adds the limitation that the first Host distributed device is selected to process the first workload in response to capability values of a capability vector for the firs system stored in a capability data base coupled to the server system. The Examiner states that *Suarez* teaches the limitation of Claim 26 and cites column 3, lines 33-55, column 4, lines 56-66, column 26, lines 1-32 and column 25, lines 40-66.

While *Suarez* does disclose various types of capabilities, *Suarez* does not teach or suggest that these capabilities are in a capability vector stored in a capability database. Likewise, *Suarez* does not teach or suggest that capability values any of his capabilities are used to select the first Host distributed device to process the first workload as recited in Claim 26. The Examiner is silent regarding any teachings of *London* relative to Claim 26. The Applicant did not find "capability vector" "capability value" nor "capability database" in any form in *Suarez* and in particular did not find it in column 3, lines 33-55, column 4, lines 56-66, column 26, lines 1-32 and column 25, lines 40-66. Since the Applicant did not find "capability vector" anywhere in *Suarez* and Examiner <u>did not specifically point out</u> what he believes is the "capability vector" of Claim 26, the Applicant respectfully asserts that the Examiner has failed to make a *prima facie* of obviousness for Claim 24 over the cited prior art.

Therefore, the Applicant respectfully asserts that the rejection of Claim 26 under *35 U.S.C. § 103(a)* as being unpatentable over *London* in view of *Suarez* is traversed by the above arguments and for the same reasons as Claims 23.

Claim 27 is dependent from Claim 23 and includes all the limitations of Claim 23. Claim 27 adds the limitation that the first Host distributed device is selected to process the first workload in part because a data address for the first data required to process the first workload in the index corresponds to a storage address for accessing storage coupled to the first Host distributed device. The Examiner states that *Suarez* teaches the invention of Claim 27 and cites column 26, lines 40-67 and column 27, lines 33-36. Column 26, lines 40-67 of *Suarez* describes how services communicate and does not teach or suggest indexes of any form. Column 27, lines 33-36 discusses the queue of a destination agent and does not mention the index of step 3 in any form. The Applicant has shown that *Suarez* does not teach or suggest the index of Claim 23, therefore, *Suarez* cannot teach that the first Host distributed device is selected to process the first workload in part because a data address for the first data is located in the index of step 3 of Claim 23. The Examiner is silent regarding any teachings of *London* relative to Claim 27.

Therefore, the Applicant respectfully asserts that the rejection of Claim 27 under *35 U.S.C. § 103(a)* as being unpatentable over *London* in view of *Suarez* is traversed by the above arguments and for the same reasons as Claims 23.

Claim 28 is an independent claim directed to a distributed data processing system implementing the method steps of Claim 23. The Examiner states that Claim 28 is rejected for the same reasons as Claim 1 and additionally because *Suarez* teaches a database coupled to the Server system for storing capability vectors having capability values defining an ability of each of the multiplicity of Host processing devices has processing workloads for the distributed processing system. Clam 1 has been canceled thus the Applicant assumes the Examiner meant Claim 23.

The Examiner cites *Suarez*, column 2, lines 5-10, column 13, lines 40-60 and column 14, lines 5-20. The Applicant has shown that *Suarez* does not teach or suggest all the steps of Claim 23 and therefore does not teach or suggest the data processing system of Claim 28. Column 2, lines 5-10 of *Suarez* describes layers in

the client-server architecture in the art. Column 13, lines 40-60 discusses registration of agents in his system. Column 14, lines 5-20 of *Suarez* describes FIG. 6 which has a <u>configuration database</u> but <u>not a capabilities database</u>. The Examiner is silent regarding any teachings of *London* relative to Claim 28.

Therefore, the Applicant respectfully asserts that the rejection of Claim 28 under *35 U.S.C. § 103(a)* as being unpatentable over *London* in view of *Suarez* is traversed by the above arguments and for the same reasons as Claims 23.

Claim 29 is an independent claim directed to a computer program product operating within a Server system managing a distributed processing system and implementing the method steps of Claim 23. Claim 29 is rejected for the same reasons as Claim 28. *Suarez* does not mention any computer program product and in particular does not mention the computer program product of Claim 29. The Examiner is silent regarding any teachings of *London* relative to Claim 29.

Therefore, the Applicant respectfully asserts that the rejection of Claim 29 under *35 U.S.C. § 103(a)* as being unpatentable over *London* in view of *Suarez* is traversed by the above arguments and for the same reasons as Claims 28.
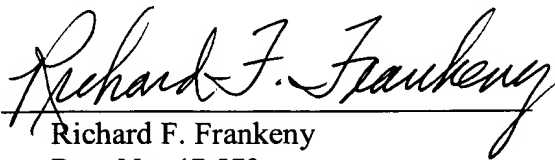
Claim 30 is an independent claim directed to a software agent used in managing a distributed processing system and implementing the method steps of Claim 23. Claim 30 is rejected for the same reasons as Claim 23. The Examiner is silent regarding any teachings of *London* relative to Claim 30.

Therefore, the Applicant respectfully asserts that the rejection of Claim 30 under *35 U.S.C. § 103(a)* as being unpatentable over *London* in view of *Suarez* is traversed for the same reasons as Claims 23.

Respectfully submitted,

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APPENDIX

23. A method operating a distributed processing system having a network coupling a multiplicity of Host distributed devices for processing workloads for the distributed processing system, a plurality of Client systems requesting processing of the workloads, and a Server system for selectively distributing the workloads from the plurality of Client systems for processing by the distributed processing system comprising the steps of:

receiving a request by the Server system from one of the plurality of Client systems to use the distributed processing system to process a first workload;

sending the first workload to a first Host distributed device selected from the multiplicity of Host distributed devices;

sending to the first Host distributed device an index of one or more data addresses defining a location of first data required to process the first workload;

accessing the first data from a first data address selected from the one or more data addresses in the index; and

updating the index to include a storage address of storage coupled to the first Host distributed device as a location of the first data.

24. The method of claim 23, wherein the multiplicity of Host distributed devices are coupled to the network in response to an incentive supplied by the Server system.

25. The method of claim 24, wherein the incentive defines an advantage for the multiplicity of Host distributed devices to couple to the network.

26. The method of claim 23, wherein the first Host distributed device is selected to process the first workload in response to capability values of a capability vector for the first Host distributed device stored in a capability database coupled to the server system.

27. The method of claim 23, wherein the first Host distributed device is selected to process the first workload in part because a data address for the first data required to

process the first workload in the index corresponds to a storage address for accessing storage coupled to the first Host distributed device.

28. A distributed data processing system comprising:

a multiplicity of Host distributed devices coupled to a network such that the Host distributed devices process workloads for the distributed processing system;

a Server system coupled to the network for distributing workloads to selected of the multiplicity of Host distributed devices;

a database coupled to the Server system for storing capability vectors having capability values defining an ability of each of the multiplicity of Host processing devices has for processing workloads for the distributed processing system;

an index stored in the database having one or more storage addresses defining storage locations for accessing data required to process workloads for the distributed processing system;

circuitry for accessing first data required for a first workload by a first Host distributed device processing the first workload using an address of the first data stored in the index, wherein the first Host distributed device stores the first data at a first data address when processing the first workload; and

circuitry in the first Host distributed device for automatically updating the index in the database to include the first data address as a location for the first data.

29. A computer program product operating within a Server system managing a distributed processing system, wherein the Server system is coupled to a network, the network configured to enable the Server system to be coupled to a multiplicity of Host distributed devices for processing workloads for the distributed processing system, the program product comprising a program of instructions for performing the program steps of:

configuring a database in storage coupled to the Server system for storing and accessing capability vectors have capability values defining an ability each of the multiplicity of Host distributed devices has for processing workloads for the distributed processing system;

configuring an index in the database for storing addresses defining locations of data required to process each workload the Server system submits to the distributed processing system for processing;

sending storage addresses of first data required to process a first workload from the index to a first Host distributed device when the first Host distributed device is selected to process the first workload; and

updating the index with a storage address of the first data within storage coupled to the first Host distributed device when the first Host distributed device is selected to process the first workload.

30. A software agent operating within each of a multiplicity of Host distributed devices coupled to a network, the network configured to enable a Server system to selectively couple the multiplicity of Host distributed devices to perform workloads for a distributed processing system, the software agent comprising a program of instructions for performing the program steps of:

receiving in a first Host distributed device selected from the multiplicity of Host distributed devices a first workload, an application program to process the first workload, and an index of storage addresses defining one or more locations for accessing first data required to process the first workload;

accessing the first data from one of the storage addresses in the index;

storing the first data at a first storage address in storage coupled to the first Host distributed device when the first Host distributed device is selected to process the first workload; and

updating the index by adding the first storage address as an address for accessing the first data.